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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,786	10/20/2003	Garrett H. DeVlieg	HYAIR-65642	7597

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EXAMINER

SCHWARTZ, CHRISTOPHER P

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/689,786

Applicant(s)

DEVLIEG, GARRETT H. 

Examiner

Christopher P. Schwartz

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☒ Claim(s) 7 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

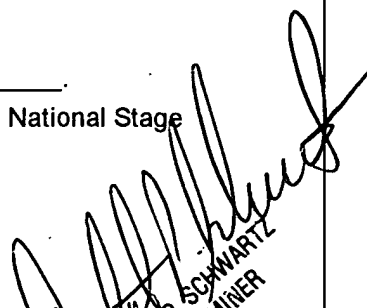
- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____


CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER

DETAILED ACTION

1. Applicants amendment and information disclosure statement filed 10/4/04 and 10/25/04 have been received and considered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bechhoefer '012 in view of either Adibhatla '783 or Brearley et al..

Regarding claim 1 Bechhoefer '012 discloses a system similar to applicants for determining the wear and future state or health of an aircraft component, such as a shaft, bearing or gear. Please see the discussion in columns 1,3 and 5 in their entirety.

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It may be interpreted that said component is an integral part of a system thereof the life of which may be determined based on the state of the component.

Notwithstanding this argument however the references to either Adibhatla or Brearley et al teach it is known to determine the life of a "system" based on the wear determination of one or more of the "system" components or parts. Adibhatla teaches this for an engine system (see col. 3 lines 10+) and Brearley et al. teaches this for a brake system (see also col. 3 lines 10+).

One having ordinary skill in the art would have found it obvious to have employed the wear and future health determination means of an aircraft component part, as taught by '012, to the "system" of which the component is a part of, to better determine the overall state of the aircraft for increased safety.

5. Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Bechhoefer as applied to claim1 above, and further in view of Larson or Breed.

Although Bechhoefer '012 lacks a specific discussion of determining the wear state and future life of an aircraft tire such an incorporation into a vehicle system status monitoring device is old and well known in the art, as taught by either Larson (see the abstract) or Breed (see the lower half of both columns 11 and 12).

It would have been obvious to have included the measurement of tire status in the device of '012 for overall increased aircraft safety.

6. Claims 3-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Kilner in view of Larson and Kirchberger et al. and Walenty or Wells.

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Regarding claim 3 Kilner discloses a control system for an aircraft to control it's lateral behavior during rollout.

Kilner lacks a specific disclosure of monitoring the tires for wear using wheel speed signals and yaw signals.

The reference to Larson discloses the known concept of using the wheel speed signals in the determination of tire wear.

The reference to Kirchberger et al. is relied upon to teach the known relationship of yaw rate with tire malfunction (i.e. tread wear, lack of air pressure, out of round etc.).

Please see at least the abstracts of both of these references.

One having ordinary skill in the art at the time of the invention would have it obvious to have incorporated the teachings of Larson and Kirchberger et al., that is, the fact that tire wear can be estimated from wheel speed and yaw rate calculations, into the device of Kilner so that the lateral forces on the aircraft during rollout can be more easily controlled.

The references to Walenty or Wells are relied upon to teach the known idea that it is desirable to reduce the brake actuation forces or the number of brakes actuated to save on power consumption or to reduce the load on the electrical system and reduce the wear on the brakes.

Regarding claims 4-5 these limitations are considered to be met in view of the teachings of the references above.

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7. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Bechhoefer '012 in view of either Adibhatla '783 or Brearley et al.. as applied to claim 1 above, and further in view of Breed '080 or Joao.

Regarding claim 6 Bechhoefer '012 lacks a specific discussion of monitoring the usage and wear of an aircraft "standby" system. However such a "standby" system, as broadly claimed, may be any system not in use, at a particular time, on the aircraft, such as the brake system.

Nevertheless the references to Breed or Joao teach it is known to monitor such subsystems for operational effectiveness.

The ordinary skilled worker in the art would have found it obvious to have employed such a standby system monitoring means on Bechhoefer '012 to offer a safer aircraft.

8. Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Bechhoefer '012 in view of either Adibhatla '783 or Brearley et al.. as applied to claim 1 above, and further in view of WO 98/46972.

Regarding claim 8 although '012, as modified, lacks the specifics of determining the remaining life of an aircraft landing gear, such an idea is fairly taught by Wo '972.

It would have been obvious to have also included a landing gear monitoring means in '012, as modified, simply to offer an overall safer aircraft system.

Allowable Subject Matter

9. Claims 7,9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references cited but not applied have been cited for showing

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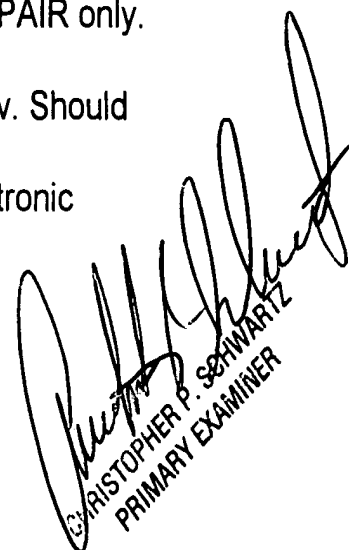
known concepts in the art. These references should be reviewed before preparing a response to the action above..

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Schwartz whose telephone number is 703-308-0576. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cps
12/15/04


CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER